DOCUMENT RESUME

ED 190 989 CS 005 583

AUTHOR Warming, Eloise O.
TITLE Aiding High-Risk Students to Become Efficient Readers and Persistent Learners: Effective Teaching Methods and Materials.
PUB DATE May 80
NOTE 22p.: Paper presented at the Annual Meeting of the International Reading Association (25th, St. Louis, MO, May 5-9, 1980).

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS College Students: *Course Content; Curriculum; Higher Education; *High Risk Students; *Individualized Instruction; *Individualized Reading; *Reading Instruction; Reading Programs; *Remedial Instruction

ABSTRACT

Postsecondary institutions must continue to provide remedial and compensatory courses for those entering students whose deficient reading and writing skills preclude their academic success or survival. A keystone to academic survival and success is the reading/study skills course that takes into account learner characteristics in both the cognitive and affective domains, that helps students learn to read college-level materials, that shows students how to think logically and critically, and that develops efficient study skills. The most effective reading/study skills courses are those providing active learning to produce mathemagenic outcomes--behaviors that insure continued learning. Activities requiring oral interaction are especially helpful. Another factor significantly related to successful college reading programs is informing students of their strengths and weaknesses so they can set realistic goals for course outcomes. Giving attention to students' cognitive styles is also important when reading teachers are structuring learning environments and class activities. (Materials and methods for these and other essential components of college reading programs are discussed.) (RL)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED190989

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

Aiding High-Risk Students to Become Efficient Readers and Persistent Learners: Effective Teaching Methods and Materials

A paper presented at the Twenty-Fifth Annual Convention of International Reading Association, St. Louis, Missouri, May 7, 1980

Eloise O. Warming
Eastern Kentucky University
Richmond, Kentucky

"PERMISSION TO REPRODUCE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY
Eloise O. Warming
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

CS005523

Running head: Effective Teaching

Aiding High-risk Students to Become Efficient Readers and Persistent Learners: Effective Teaching Methods and Materials

Clifton R. Wharton, Jr. (1979) has pointed out that despite the back-to-basics movement to improve literacy skills in the early years of schooling, in the foreseeable future post-secondary institutions must continue to provide remedial or compensatory courses for those entering students whose deficient reading and writing skills preclude their academic success or survival. He further points out that basic to the admission of underprepared is the philosophical question of academic excellence which, as Wharton perceives it, consists of two axes. The traditional axis is the vertical one of rigorous standards for the traditional student. The other "...axis of excellence is horizontal: it consists of the willingness and ability of educators to respond to students who differ not only in social and economic background but in talent and scholastic experience" (p. 41). The students of wnom Wharton speaks are those Cross (1971) termed "new students", and they are usually identified by low scores on the American College Test (ACT) and the Scholastic Aptitude Test (SAT).

Although low scores on the traditional predictors of academic success

indicate that students need special help if they are to persist to graduation, when low-scoring students arrive on campus, most have the same hopes and aspirations as those of their peers who have higher ACT or SAT scores. Others may not have defined their goals. They may be in college because a parent or counsellor thought that going to college is a good idea, or because BEOG money is available, or because there seems no viable alternative. Whatever the circumstances which bring high-risk students to campus, they need much TLC, and love, educationally speaking, means helping students gain the skills they need to survive in academe.

A keystone to academic survival and success is a reading/study skills course which takes into account learner characteristics in both the cognitive and affective domains and which helps students learn to read college level materials, to think logically and critically, and to develop efficient study skills. Such a course which takes into consideration cognitive and affective entry characteristics is consonant with the extensive research and writing of Benjamin Bloom (1976) who asserts that both cognitive and affective entry characteristics are alterable and that both are germane to producing desirable educational outcomes. Many high-risk students are not autonomous - they need to learn general coping skills, and many need to change their concepts, not only of themselves as students but also of teachers and of learning. Sidney Jourard (1968) points out that growth

occurs when one's way of experiencing the world disintegrates followed by "...reorganization of the experience that includes a new disclosure of the world" (p. 153). A carefully structured reading/study skills course can effect a change in students' ways of experiencing reading/study and can provide impetus for growth.

The most effective reading/study skills course provides for active learning; the course must provide experiences which produce mathemagenic (Rothkopf, 1967) outcomes - behaviors that give birth to continued learning. Activities requiring oral interaction are necessary because many high-risk students have language deficits. Even if students have heard words they encounter on the printed page, often they do not recognize simple words such as futile or decent. To illustrate, one startled student reported when he was told the correct pronunciation of misled, "All my life I have read that word mīz'ōld."

Joyce Maynard in "Growing Up Old" (1973) provides insight into the reading/learning behaviors of the television generation when she relates that by age nineteen, the average person has spent 5000 hours in front of the television screen as an indiscriminate viewer. Consequently, students are impatient readers/learners because so much effort is required. In addition, many students in college today are products of open classrooms where they worked with their individual packets, often in a passive environ-

ment. Provision for active involvement of students both in planning and in learning is essential.

In reviewing successful college reading programs, Fairbanks (1974) reported that one factor significantly related (.05 level) to success is the informing of students of their strengths and weaknesses. Sharing the results of both cognitive and affective measures, such as scores on reading tests, and inventories of locus of control and a self-esteem inventory in individual conferences permits realistic goal-setting. Conferences analagous to Glasser's (1979) reality therapy provides a means of establishing rapport (Glasser's making friends) and enables both students, and instructor to take a realistic look at the status of the students' repertoire of behaviors related to learning,and provides the opportunity to make a plan for the semester and beyond and to get from students committments about intentions for learning. Often the high-risk students' concept of themselves as students is low, and the conference affords an opportunity for the instructor to point out strengths. Jourard (1968) points out that if some "significant other" such as a counsellor or teacher perceives more possibilities in the students' behavior than they themselves acknowledge or envision, and if the "significant other" helps students to have doubts about negative or under-developed self-concepts, then students may begin to change their concepts of selves as failure and may begin to reform images of selves as student, initiating action to become successful.

In the classroom instructors need to know more than students' levels of educational development. In teaching students to read accurately and critically and to improve reasoning skills, giving attention to students' cognitive style is important. Although there are several different aspects of cognitive style (Maxwell, 1979), information relating to field dependence/independence has implications for structuring both learning environment and activities. Determining field dependence/field independence can be accomplished by using the Group Embedded Figures Test (Witkin, et.al., 1971), which is easy to administer, to score, and to interpret. Results indicate students' ability to remember and to locate accurately a simple figure embedded in a complex drawing.

Students who perform the disembedding task in the alloted time are generally field independent (FI). These students are characterized by high abilities in cognitive restructuring skills, have greater tolerance for ambiguities, and are concerned with abstract ideas as opposed to people-related concerns. Students who find the disembedding task difficult, scoring eight or fewer out of a possible eighteen, are considered field dependent (FD). Such students are characterized by global/nonanalytic thinking, a need for external structure, and a desire for social interaction. In general, FD students learn more efficiently through discussion, extensive use of external cues, and cooperative ventures (Witkin, 1976).

Since many high-risk students are field dependent learners who tend to use global reasoning patterns and who do not engage in analytical problem-solving and critical thinking (Maxwell, 1979), they suffer a mismatch between their optimal learning modes and the demands of college classes. Wittrock (1978) who speculates that "... we can expect learning to be difficult when a mismatch exists between a child's global strategy and the analytical organization of many curricular and instructional tasks" suggests that taking into account the customary modes through which students reason is one way of improving instruction (p. 92). Studies show that cognitive style can be altered, to a degree, through direct instruction and modeling (Wagner and Wilde, 1973).

A model for improving academic capacity in adults was yielded from a study conducted by Bloom and Broder from 1945 to 1950 which broached "...the question of whether academic aptitude could be improved through special training" (Whimbey, 1975, p. 53). After identifying the differences in the ways college students scoring low on academic aptitude tests solved problems from those students with high aptitude, Bloom and Broder devised a training program. In the program the student solved problems by thinking aloud so that the tutor could monitor the student's line of reasoning. Then the student compared his line of reasoning with a model or protocol for solving the problem. Each time similarities and differences in the line of

reasoning were noted, and in subsequent trials the student attempted to modify his method of problem-solving. The training program was successful in terms of improved grades and changes in academic performance for students involved. Similar training programs have been used successfully in several remedial programs (Hechinger, 1979). Bloom and Broder's model for developing analytical thinking is used in a recently published book, Problem Solving and Comprehension by Whimbey and Lockhead. Having copies of this text or similar materials available in the reading laboratory or mini-library is recommended so that students working eitner in pairs or with tutors may use them.

In the reading classroom improvement of reading skills must have priority. Although some few students lack competence in decoding skills, their needs must be met individually; in general, developing higher level skills are the prime concern at the post-secondary level. In teaching students to find and to state the main idea, often instruction must begin at the sentence level. One cannot assume that students learn the skill by passively checking a number or letter before a statement the author or teacher has formulated. Excellent suggestions for an active approach to teaching key ideas are found in Improving Reading in Every Classroom by Thomas and Robinson (pp. 118-123). Another resource for instructors is "A Systematic Procedure for Teaching Main Idea," by Dishner and Readance (1977). These authors' four-step teaching

procedure which provides for active involvement of students in finding and stating main ideas in paragraphs can be applied to a variety of materials.

Materials which can be used for both active teaching and for practice are limitless. Among the commercially prepared are Reading for the Main Idea from the McGraw-Hill Basic Skill Series , three from Jamestown Publishers - Getting the Main Point, Book Six, in A Skill at a Time Series and Six-way Paragraphs both by Walter Pauk, and Understanding the Main Idea by Giroux and Williston. The latter book provides structure for teaching locating the topic sentence and recognition of paragraph patterns. Of special appeal to many high-risk students is Selections from the Black. In this series all skills are labelled so that particular comprehension problems can be identified. News magazines and newspapers are useful for directed reading activities, as well as for culminating activities in which students demonstrate the ability to read independently and to write a main idea statement. Using selections from texts of other classes provides a context for transfer of training.

Although in developmental classes the main thrust for reading improvement should stress flexibility in reading, helping slow readers to increase their speed is highly desirable. Fridal (1979) concludes "that concentration is related to the speed at which the mind processes information" (pp. 198-199) and that improving reading speed can facilitate concentration, leading to

more efficient study. Daily practice using selections such as those of the revised McCall-Crabbs Standard Tests in Reading as well as longer selections and novel reading is beneficial in helping slow readers to increase speed.

For developmental students reading, thinking, and listening skills can be improved through oral reading activities in which students working in dyads read to each other. Short passages such as those found in Pauk's Six-way Paragraphs and similar passages are ideal. Working in pairs, one student listens while the other reads the passage, followed by reading the questions. The listener may not look at the material. Jointly the students answer the questions, forcing active dialogue and use of logic. Dunn and Dunn (1973) point out that small group effort provides opportunities for learning without the teacher always serving as the resource of knowledge. In addition, the small group provides opportunities for discussion, reflection, and for understanding how others think and reach conclusions.

In helping students develop comprehension skills, appropriate questioning is fundamental to both teaching and learning. Appropriate questioning, depends, at least in part, upon the form of discourse. Catterson (1979) cogently argues for a discourse analysis model for determining appropriate questions. The goal, of course, is to lead the students to be able to generate their own questions at higher cognitive levels. One technique found to be effective in improving student questioning behaviors is the ReQuest Procedure (Manzo, 1969) which stands for reciprocal questioning. In ReQuest, the teacher and

student take turns asking questions about a passage. The procedure can be modified in a group setting by having students work in pairs or triads.

Another technique for developing thinking is the cloze procedure which also stimulates thinking and can be used either in the standard way of requiring the exact word in the deletion, or the procedure can be varied so that in the basic deletion pattern the student is directed to put in the best word he can think of, rather than the missing word. In this variation on cloze any logical or defensible word is acceptable, and students respond positively because they are not told that their responses are incorrect.

Teaching students to depict graphically the concepts of reading material in matrices or diagrams as a way of translation or evidencing comprehension is another effective means of teaching thinking/logic patterns. Hanf (1971) labels the technique "mapping" and identifies its use as an exercise in critical thinking. In order to make a "map" the student must first find and state the thesis or main idea, followed by the sorting out of secondary ideas and supporting details. Hanf suggests using mapping as a study technique in conjunction with SQ3R. The map may take a variety of forms as long as the design allows for arranging ideas and information in hierarchical order. In effect, mapping provides a graphic summary of an article or a chapter, an effective and efficient aid in studying and learning. Although mapping provides a technique which is challenging for independent learners,

some students who are field dependent and constricted become frustrated in attempting to use the model, and pairing is recommended for such students.

The aforementioned teaching strategies are by no means exhaustive; they are representative of the kinds of learning tasks useful in helping students to improve reading and thinking skills. Patterns of thinking affect the way individuals select, sort, and derive meaning not only from their environments but also from the written word, and awareness of individuals' cognitive style preference enables an instructor to devise teaching strategies and to select materials appropriate for producing desired learning outcomes.

Another learner characteristic which affects learning behavior and academic success is the psychological construct internality vs. externality or locus of control (Lefcourt, 1976). Students who are high internals function independently and take responsibility for their own learning. However, students who are high externals (they perceive that others, powerful social systems and fate are in control of their lives) challenge even the most skilled and experienced instructor. High externals do not take initiative in controlling their own environment, and they tend to employ global reasoning patterns. For example, one high external reasoned like this: "I certainly am glad I got away from that town. Everybody there was getting pregnant. Fourteen-year old girls having babies. I'm lucky I got away from

there before something happened to me." Her externality is evidenced by the fact that she associates getting pregnant with a place and not individual responsibility. Because she knew two young girls - one fourteen, the other fifteen - who had recently delivered babies, her assessment of the situation was "Everybody is getting pregnant; the place has gone to the dogs." In the reading process students who are high externals tend to respond to questions in a global manner and often exhibit inability to read objectively.

In the classroom high externals have great difficulty accepting personal responsibility for learning. If students' answers on a test are incomplete and the test score is low, the teacher is to blame. For many difficulties encountered on campus, students perceive the Institution to be at fault. Rouche and Mink (1976) have theorized that students exhibiting a high degree of externality profit most when the learning system they enter is characterized by:

(1) systematic design of the total learning environment

(2) provision for multiple levels of entry into carefully ordered instructional sequences

(3) staff involvement personally and professionally

(4) an openness to approaching specific problems (exams, grades) on generalized fundamental levels (locus of control) (p. 46).

In addition, learning experiences carefully structured from the simple to complex and experiences in which students can expect to succeed are essential to help students move from an external to an internal orientation.

Books, essays, and articles which speak to man's responsibilities for his own actions and achievements are appropriate-bibliotherapy. Recently published books such as the following are particularly useful. In Pulling Your Own Strings (1978) and Your Erroneous Zones (1976) Dr. Wayne Dyer explores ways people diminish themselves and methods for breaking out of the vicious cycles of self-defeat and negativism through setting behavorial goals and positive mental attitudes. Self-change is presented through positive, attainable behaviors that all are capable of accomplishing. A particularly useful section not only defines internal vs. external control but also gives examples which demonstrate the external orientation and suggests the keeping of a journal of both external and internal behaviors, the goal of which is to enable one to shift gradually toward the internal orientation.

Another book dealing with awareness of self-defeating behaviors containing realistic suggestions for a self-control program is Do It Now: How To Stop Procrastination by Dr. William J. Knaus (1979). I Can If I Want To by Lazarus and Fay (1975), based upon the premise that "when we recognize where the locus of control resides - in our heads and not in the external events - we are able to start doing something to change the way we perceive events" (p. 22), also presents specific approaches to aid persons in taking

charge of their own behaviors. Another perspective on the importance of the individual's attitude is one discussed in How To Be a Successful Failure by Ernest A. Fitzgerald (1978). This simply written book advocates utilizing one's strengths to turn seeming adversity to one's advantage and recognizing that defeat in one realm does not mean the end. Such a philosophy seems helpful and appropriate for some high-risk students who face one defeat after another. Having a number of books such as these in the reading lab or the mini-library is important. In addition, many reading skills/ work texts contain selections which facilitate understanding of self and people.

An important but seldom used source for structuring reading exercises is the college or university handbook. High-risk students as a group do not read the handbook. Using it for a variety of in-class exercises not only forces the reading of it but also helps students to see that the University - that "powerful other" - holds them responsible for their actions but at the same time guarantees them many rights.

Reading improvement and the development of analytical thinking is important for high-risk students,but development of these skills alone is not sufficient. Many students who studied either very little or not at all in high school arrive on the college campus expecting to continue the same behaviors. Many do not know how to study efficiently, and consequently, for these students inclusion of study skills either in the reading course or as a separate

course is essential for survival and persistence. Although the utility of study-habits inventories is questioned by some (Maxwell, 1979), this author believes that an inventory such as the Brown-Holtzman Survey of Study Habits and Attitudes is helpful as a counselling tool for both individuals and classes. Having students make their own profiles can prove enlightening to those whose attitudes and habits differ markedly from those of successful students. Together instructor and students can assess strengths and weaknesses and set both individual and group goals.

The number of study skills books is too numerous to list, and essentially each text covers in some way, a study system (SQ3R or a variation), time management,concentration, lecture note-taking, textbook marking or note-taking, and test-taking skills. College Reading and Study Skills by Nancy Wood (readability about the ninth grade level) provides instruction for reading different types of textbooks. Student Success by Walter and Siebert, more informal in its format, is appealing because emphasis is placed upon the fact that being successful as a student and being successful in life are inseparable. The authors emphasize the importance of using study time efficiently in order to have time for an equally important part of life - having time for one's friends. How to Study by Walter Pauk is a comprehensive and formal presentation. In addition, the authoritarian structure such as that found in the Cornell format for lecture-notetaking and in suggestions for textbook marking provides excellent instruction which can be applied in a variety of subjects

for field dependent students. Maxwell (1979) points out that "...study skills courses tend to be most successful in improving student achievement when they blend counselling, structured presentations, and intensive practice on course-related materials" (p. 305).

Helping high-risk students to become persistent learners means being concerned with students' welfare beyond the reading classroom and involves guiding them to other sources of help. In matters academic, most institutions have available individual tutors or group tutorials for courses that run the gamut from composition to social sciences, hard sciences, and accounting. Frequently, students are unaware of academic support services for general education courses available either in the learning center, in an area of the library, or in individual departments and such sources must be pointed out. For students who have a low self-concept or ineffective social skills, in addition to individual counselling, often encouraging students to enroll in a course in interpersonal effectiveness is helpful. Those who have not chosen a major and/or career goals should be guided to career counselling. Available on some campuses is The System for Student Interactive Guidance and Information (SIGI), a computer program, which is an individualized planning system providing a rational process for making career decisions and selecting a college major consistent with the student's own value systems, interests, aptitudes, and resources.

Even though institutions and individual instructors strive to increase retention of high-risk students, nationally attrition is high. Teachers and remedial programs cannot be successful with all students. Maxwell (1979) points out that a student's dropping out need not always be interpreted in negative terms, for dropping out may indicate a realization that the academic environment is not the right place for him/her to be. Such a decision can indicate maturity.

The teaching strategies presented in this paper do not always work with all students. Nevertheless, they can serve as guides to be adapted. Realistically speaking, even though instructors provide effective instruction and an optimum learning environment, frequently, some students are resistant to changing their learning behaviors so that they can be successful. Hechinger (1979) summed up the heart of the problem of teaching high-risk students when he said, "In the end remedial instruction depends on faith and commitment - faith in the students' ultimate capacity to rise above their deficient preparation and commitment on the part of teachers and administration to help them succeed" (p. 75).

References

Bloom, Benjamin S. Human Characteristics and School Learning. New York: McGraw-Hill Book Co., 1976.

Brown, W.F. and Holtzman, W.H. Survey of Study Habits and Attitudes. Form C. New York: The Psychological Corporation, 1967.

Catterson, Jane. "Comprehension: The Argument for a Discourse Analysis Model." In Reading Comprehension at Four Linguistic Levels, pp. 2-7. Edited by Clifford Pennock. Newark, Del.: International Reading Association, 1979.

Cross, K. Patricia. Beyond the Open Door. San Franciso: Jossey-Bass, Inc. 1971.

Dishner, Ernest K., and Readence, John E. "A Systematic Procedure for Teaching Main Idea." Reading World 16 (May 1977): 292-298.

Dunn, Rita, and Dunn, Kenneth. "Kids Must Learn How to Learn Alone." Learning (April 1973): 17-18.

Dyer, Wayne H. Pulling Your Own Strings. New York: Thomas Y. Crowell Company, 1978.

_____. Your Erroneous Zones. New York: Funk and Wagnalls, 1976.

Fairbanks, Marilyn. "The Effect of College Reading Improvement Programs on Academic Achievement." in Interaction: Research and Practice for College-Adult Reading. 23rd yearbook of the National Reading Conference, pp. 105-114. Edited by Phil L. Nacke Clemson, S. C.: The National Reading Conference, 1974.

Fitzgerald, Ernest A. How to Be a Successful Failure. New York: Atheneum/SMI, 1978.

Fridal, Gorm. "Improving Concentration in Reading." Journal of Reading 23 (December 1979): 198-199.

Glasser, William. "The Basic Concepts of Reality Therapy." Revised 1/1/79. Chart presented at Workshop at Eastern Kentucky University, March, 1979.

Hanf, Buckley M. "Mapping: A Technique for Translating Reading into Thinking." Journal of Reading 14 (January 1971): 225-230, 270.

Hechinger, Fred M. "Basic Skills: Closing the Gap." Change (October 1979): 29-33, 75.

Jourard, Sidney. Disclosing Man to Himself. Princeton: D. Van Nostrand Co., Inc., 1968.

Knaus, William J. Do It Now: How To Stop Procrastinating. Englewood Cliffs: Prentice-Hall, Inc., 1979.

Lazarus, Arnold, and Fay, Allen. I Can If I Want To. New York: William Morrow and Co., Inc., 1975.

Lefcourt, Herbert M. Locus of Control. New York: John Wiley and Sons, 1976.

Manzo, Anthony V. "The ReQuest Procedure." Journal of Reading 13 (November 1969): 123-26, 163.

Maxwell, Martha. Improving Student Learning Skills. San Francisco: Jossey-Bass, Inc., 1979.

Maynard, Joyce. "Growing Up Old in the 60's." McCall's, May 1973, pp. 123-127.

McCall-Crabbs Standard Tests in Reading. Revised and Edited by Robert P. Starr. New York: Teachers College Press, 1979.

Pauk, Walter. Getting the Main Point. Providence: Jamestown Publishers, 1975.

_____.How to Study in College Second Edition. Boston: Houghton-Mifflin Company, 1974.

_____. Six-way Paragraphs. Providence: Jamestown Publishers, 1974.

Reading for the Main Idea. Edited by Alton Raygor. New York: McGraw-Hill Book Company, 1969.

Roueche, John E. and Mink, Oscar G. "Helping the 'Unmotivated' Student: Toward Personhood Development." Community College Review 3 (Spring 1976): 40-50.

Rothkopf, Ernst Z. "Learning from Written Instructive Materials: An Exploration of the Control of Inspection Behaviors by Test-like Events." American Education Research Journal, 1966, 3, 241-249.

Selections from the Black. Edited by Edward Spargo. Providence: Jamestown Publishers, 1974.

Thomas, Ellen L., and Robinson, H. Alan. Improving Reading in Every Class. Boston: Allyn and Bacon, 1972.

Understanding the Main Idea. Edited by James A. Giroux, Providence: Jamestown Publishers, 1978.

Wagner, Steven R., and Wilde, John E. "Learning Styles: Can We Grease the Cogs in Cognition?" In Yearbook-Claremont Reading Conference. Edited by Malcolm R. Douglas, 1973.

Walter, Tim, and Siebert, Al. Student Success. New York: Holt, Rinehart and Winston, 1976.

Wharton, Clifton R., Jr. "The New Darwinism of Basic Learning." Change, November-December 1979, pp. 38-41.

Whimbey, Arthur, and Whimbey, Linda. Intelligence Can Be Taught. New York: E.P. Dutton, 1975.

Whimbey, Arthur, and Lockhead, Jack. Problem Solving and Comprehension. Philadelphia: The Franklin Institute Press, 1979.

Witkin, Herman A. "Cognitive Style in Learning and Teaching." In Individuality in Learning by Samuel Messick and Associates. San Francisco: Jossey-Bass, Inc., 1976.

Witkin, Herman A., et al. Group Embedded Figures Test. Palo Alto: Consulting Psychologists Press, Inc. 1971.

Wittrock, Merlin C. "Cognitive Processes of the Brain." In Education and the Brain. The Seventy-seventh Yearbook of the National Society for the Study of Education, Part II. Edited by Jeanne S. Chall and Allen F. Mursky. Chicago: University of Chicago Press, 1978.

Wood, Nancy. College Reading and Study Skills. New York: Holt, Rinehart and Winston, 1978.